INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN FLUIDS
Int. J. Numer. Meth. Fluids 2005; **48**:1429–1430

AUTHOR INDEX

Abu-Ramadan, E., 467
Acharya, S., 691
Aganin, A. A., 115
Alexiades, V., 1283
Alikina, O. N., 107
Amara, M., 1375
Anderson, M. L., 583
Avital, E. J., 909

Bangerth, W., 583
Beck, R. F., 199
Benocci, C., 367, 397
Bermúdez, B., 349
Bernardi, C., 1375
Berthon, C., 85
Bertrand, F. H., 1041
Bhattacharyya, S., 985
Bijl, H., 929
Braconnier, B., 85

Carey, G. F., 1, 17, 325, 583
Chen, C.-Y., 853
Chen, T., 455
Chen, Z., 501
Cheng, L., 649
Choi, D.-S., 631
Corke, T. C., 747
Coutier-Delgosha, O., 135
Crossley, A. J., 775

Denaro, F. M., 869
Dobeš, J., 91
Dong, G.-J., 1351
Dufour, S., 1123

Elliotis, M., 1001
Erturk, E., 747
Ewing, R. E., 501

Ferro, S. P., 1101
Fjelde, K. K., 723
Floryan, J. M., 1259
Fochesato, C., 305
Fortes-Patella, R., 135
Fořt, J., 91
Fu, D., 835
Fujita, T., 801

Garbey, M., 43
Garcia, A. L., 1337
Georgiou, G., 1001
Giammanco, R., 397
Girault, V., 1375
Gökçöl, C., 747
Goldschmit, M. B., 1101
Gravemeier, V., 1067
Grilli, S. T., 305
Guo, W.-D., 1149
Guyenne, P., 305
Gwynllyw, D. R., 423

Hakimi, N., 135
Halama, J., 91
Hannoun, N., 1283
Hayes, R. E., 1041
Hecht, F., 1375
Heister, S. D., 1219
Hirsch, C., 135
Honma, Y., 1023
Huan, G., 501
Huang, M.-J., 521

Im, Y.-T., 631
Ito, Y., 801

Jiang, Y., 1259
Jouvray, A., 99

Kawahara, M., 819
Ketcheson, D. I., 271
Khayat, R. E., 61, 467
Khismatullina, N. A., 115
Kim, K., 199
Kono, T., 1023
Kuznetsov, A. V., 649
Kwon, O. J., 671

Lai, J.-S., 1149
Lee, S.-S., 631
Li, B., 501
Li, W., 501
Li, X., 835
Lin, G.-F., 1149
Liu, Y., 1241
Liu, Y.-C., 853
Lorentzen, R. J., 723
Lu, X.-Y. 1351

Ma, Y., 835
Mai, T. Z., 1283
Mai-Duy, N., 1309
Maiti, D. K., 985
Makino, Y., 801
Malidi, A., 1123
Manna, M., 367, 397
Mazzaferro, G. M., 1101
Medeiros, M. A. F., 565
Mendonça, M. T., 565
Minev, P. D., 455
Mmbaga, J. P., 1041

Nakahashi, K., 801
Nandakumar, K., 455
N'dri, D., 1123
Nicolás, A., 349
Nithiarasu, P., 1415
Nkonga, B., 85

Pachler, K., 1175
Pareschi, L., 947
Park, H., 1219
Park, Y. M., 671
Phillips, T. N., 423

Ramm, E., 1067
Reboud, J. L., 135
Robinson, A. C., 271
Roux, D. Y. L., 325

Sandeep, K. P., 649
Shalaby, H., 1175
Shyy, W., 43
Simons, E., 367, 397
Sirviente, A. I., 199
Smolianski, A., 231
Souza, L. F., 565
Stelling, G. S., 169

Tanguy, P. A., 1041
Tanner, R. I., 1309
Tarunin, E. L., 107
Togashi, F., 801
Trazzi, S., 947
Tucker, P. G., 99, 1241
Tyagi, M., 691
Tysanner, M. W., 1337

van Mameren, A., 929
van Zuijlen, A. H., 929

van't Hof, B., 1199
Vollebregt, E. A H., 1199

Wall, W. A., 1067
Wang, X., 1, 17
Wozniak, G., 1175
Wozniak, K., 1175
Wright, N. G., 775
Wu, Z.-N., 541

Xenophontos, C., 1001
Xiao, F., 1023

Yagi, H., 819
Yoon, S. S., 1219

Zhang, J., 61
Zhu, B., 607
Zijlema, M., 169

INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN FLUIDS
Int. J. Numer. Meth. Fluids 2005; **48**:1431–1433

KEY WORD INDEX

4th-order finite-difference compact algorithm, 1259

Advection scheme, 1023
ALE formulation, 423
ALE method, 1415
A posteriori error estimate, 43
Artificial porosity method, 1199
Artificially upstream flux vector splitting method, 1149
Atomization, 1219
Axisymmetric flows, 1101

Backward-facing step, 397
Barotropic model, 135
Benchmark, 1283
Biharmonic equation, 1001
Biomechanics, 1351
Black oil model, 501
Boltzmann equation, 947
Boundary element method, 305
Boundary layer, 397
Boundary singularity, 1001
Bubble dynamics, 115

Carreau–Bird model, 467
Cartesian grid, 541
Cavitation, 135
CBS scheme, 1415
Central schemes, 271
CFD, 801
CFD modelling, 107
Coating flow simulation, 1041
Compact difference schemes, 565
Complementary RANS equations, 199
Compressible turbulence, 835
Computational fluid dynamics, 929, 1023
Condensation, 91
Coriolis forces, 853
Couette flow, 467
Curvilinear co-ordinates, 305
Cyclone separator, 1175

Diffusion, 521
Direct numerical simulation, 835, 1259
Direct simulation Monte Carlo, 1337
Discontinuous Galerkin, 325
DNS, 367, 397
Domain decomposition, 367, 397
Driven cavity flow, 747
Drop size, 1219
Dynamic mesh adaptation, 671
Dynamic mixed model, 691
Dynamic subgrid-scale modelling, 1067
Dynamically loaded journal bearings, 423

Electronics, 1241
Elliptic kernel, 367
Enthalpy method, 1283
Euler equations, 947
Experimental airplane, 801
Extended self-similarity, 835

Fine grid solutions, 747
Fingering instabilities, 853
Finite difference, 61
Finite element methods, 231, 455, 631, 819, 1041, 1101, 1123
Finite elements, 1, 17, 325, 1375
Finite volume, 169, 607
Finite-volume method, 85, 91, 929, 1149
Fish-like swimming, 1351
Fixed point iterative process, 349
Flow control, 1351
Fluctuations, 1337
Fluid forces, 819
Fluid-dynamic limit, 947
Force-coupling method, 649
Fractional step method, 91, 607
Fractional time-step method, 869
Free moving boundary, 231
Free surface, 631, 1415
Free surface algorithms, 1041
Free surface flows, 1123
Free-boundary flows, 455
Fringe element reconstruction, 631
Front tracking, 631

Gas dynamics, 107
GMRES, 501
Godunov, 271
Gravity waves, 325
Group velocity control, 835

Hamilton–Jacobi equation, 1241
Heat transfer, 1241
Helical pipe, 649
Helmholtz decomposition, 199
High Reynolds numbers, 747
High-order finite differences, 565
High-resolution, 271
Hybrid LES–RANS, 1241
Hybrid RANS/LES, 99
Hydrodynamic instability, 565
Hyperbolic conservation laws, 271

ILES, 1241
ILU preconditioner, 501
Immersed boundary method, 691
Implicit methods, 723
Incompressible, 1415
Incompressible flow, 909
Inducer, 135
Integral formulae, 607
Interface capturing, 1023, 1123
Intermediate boundary conditions, 869

Jet-in-crossflow, 691

k–ε model, 1101
k–ε model, 1175

Lagrange multiplier, 819
Lagrange multipliers, 1001
Laminar-turbulent transition, 1259
Laplace–Young equation, 583

Large eddy simulations, 869, 1067, 1175, 691
Least square method, 43
LES, 367, 397, 1241
Level-set approach, 231
Liquid jet, 1219
Liquid vorticity, 115
LNS, 99
Load balancing, 671
Local time stepping, 775
locomotion, 1351
Lubrication, 61

Marangoni effects, 17
Mesh adaptation, 929
Mesh refinement, 1041
Miscible fluids, 853
Mixed convection, 349
Mixed interpolation, 819
Molecular simulations, 1337
Monte Carlo methods, 947
Moving boundaries and interfaces, 1351
Moving interface, 1023
Moving rigid geometry, 691
Multi-phase flow, 1023
Multifluid model, 85
Multiple interfaces, 541
MUSCL technique, 723

NAL, 801
Natural convection, 1283
Navier–Stokes equations, 107, 231, 455, 819
Non-hydrostatic, 169
Non-linear eddy–viscosity RANS, 99
Non-Newtonian fluids, 649, 1309, 1375
Non-uniform grid, 909
Numerical methods, 115

One legged temporal discretization, 1241
Open channel, 775
Operator-splitting, 231
Optimal control theory, 819
Optimal experimental design, 583
Orthogonal helical coordinates, 649
ORTHOMIN, 501
Overset method, 801

Parallelization, 671
Parameter sensitivity, 583
Partial differential equation, 43
Petroleum reservoir simulation, 501
Phase change, 1283
Poisson equation, 909
Preconditioner, 135
Pressure correction, 169
Pressure-free projection method, 869
Pure metal melting, 1283

Radial basis function network, 1309
Ranque–Hilsch effect, 107
RANS solver, 199
Rectangular domains, 349
Regularization method, 1375
Relaxation scheme, 85
Remeshing, 521
Reservoirs, 1337
Residual-free bubbles, 1067
Reynolds and Grashof numbers, 349
Richardson extrapolation, 43
Riemann problem, 1149
Riemann solvers, 271
Rigid bodies, 909
Roe's approximate Riemann solver, 775
Roll coating, 1041
Room-ventilation, 99
Rotating Hele–Shaw cell, 853
RSM, 1175
Runge–Kutta methods, 271

Scaling law, 835
Secondary flow, 1309
Semi-implicit, 169
Sensitivity of model results, 1199
Separation, 801
Shallow water, 775
Shallow-water equations, 325, 1149, 1199
Shocklets, 835
Singular coefficients, 1001
Space–time finite element, 1351
Spatially modulated channels, 467
Spectral, 61
Spectral element method, 423
Spray, 1219
Square cylinder flow, 397
Stability analysis, 1
Stator-rotor, 691
Steady 2-D incompressible N–S equations, 747
Steady state error, 541
Steepest descent method, 819
Stick–slip problem, 1001
Stiff systems, 947
Stokes flow, 1001
Straight duct, 1309
Strong stability preserving, 271
Surface tension, 231
Surfactant and thermocapillary problem, 17
Surfactant surface tension, 1

Thin cavity flow, 61
Three dimensional, 61
Three-dimensional flow, 631
Three-dimensional surface waves, 305
Three-level finite element method, 1067
Three-point difference approximation, 541
Time integration schemes, 1123
Time relaxed schemes, 947
Total variation diminishing, 271
Transient free surface flow, 61
Transonic flow, 91
Trapped vortex combustor, 691
Travelling wavy plate, 1351
Turbine cascades, 91
Turbulence, 99
Turbulent flows, 1101
Two-fluid interfacial flow, 231
Two-phase flow, 135, 649, 723

Undulating tube, 1309
Unsteady flow, 671, 775
Unstructured mesh, 671, 801
Upwind source terms, 775
URANS, 1241

Variational multiscale method, 1067
Velocity–vorticity formulation, 607
Verification, 1283
Vertical boundary-fitted co-ordinate, 169
Viscosity, 115
Viscous–inviscid coupling, 199

Vortex formation, 467
Vortex merging, 521
Vortex method, 521
Vortex shedding, 1351
Vortex splitting, 521
Vorticity boundary conditions, 607
Vorticity–velocity formulation, 565
Water waves, 169
Wetting and drying, 1199
Wind turbine airfoil, 929

CONTENTS

Volume 48, Issue Nos. 1–12 (2005)

International Journal for
NUMERICAL METHODS IN FLUIDS

Issue No. 1, 10 May

On Marangoni effects in a heated thin fluid layer with a monolayer surfactant. Part I: model development and stability analysis: X. Wang and G. F. Carey 1

On Marangoni effects in a heated fluid layer with a monolayer surfactant. Part II: finite element formulation and numerical studies: X. Wang and G. F. Carey 17

A least square extrapolation method for the *a posteriori* error estimate of the incompressible Navier Stokes problem: M. Garbey and W. Shyy 43

A hybrid spectral/finite-difference to transient free-surface flow inside thin symmetric cavities of longitudinally varying thickness: J. Zhang and R. E. Khayat 61

Numerical approximation of a degenerated non-conservative multifluid model: relaxation scheme: C. Berthon, B. Braconnier and B. Nkonga 85

Numerical solution of single and multi-phase internal transonic flow problems: J. Dobeš, J. Fořt and J. Halama 91

Computation of the flow in a ventilated room using non-linear RANS, LES and hybrid RANS/LES: A. Jouvray and P. G. Tucker 99

Calculation of heat transfer in Ranque–Hilcsh's vortex tube: E. L. Tarunin and O. N. Alikina 107

Issue No. 2, 20 May

Liquid vorticity computation in non-spherical bubble dynamics: A. A. Aganin and N. A. Khismatullina 115

Numerical simulation of cavitating flow in 2D and 3D inducer geometries: O. Coutier-Delgosha, R. Fortes-Patella, J. L. Reboud, N. Hakimi and C. Hirsch 135

Further experiences with computing non-hydrostatic free-surface flows involving water waves: M. Zijlema and G. S. Stelling 169

The complementary RANS equations for the simulation of viscous flows: K. Kim, A. I. Sirviente and R. F. Beck 199

Issue No. 3, 30 May

Finite-element/level-set/operator-splitting (FELSOS) approach for computing two-fluid unsteady flows with free moving interfaces: A. Smolianski 231

On the practical importance of the SSP property for Runge–Kutta time integrators for some common Godunov-type schemes: D. I. Ketcheson and A. C. Robinson 271

Note on non-orthogonality of local curvilinear co-ordinates in a three-dimensional boundary element method: C. Fochesato, S. T. Grilli and P. Guyenne 305

Stability/dispersion analysis of the discontinuous Galerkin linearized shallow-water system: D. Y. Le Roux and G. F. Carey 325

Issue No. 4, 10 June

2D thermal/isothermal incompressible viscous flows: A. Nicolás and B. Bermúdez ... 349

Large eddy simulation of turbulent flows via domain decomposition techniques. Part 1: theory: M. Manna, C. Benocci and E. Simons 367

Large eddy simulation of turbulent flows via domain decomposition techniques. Part 2: applications: C. Benocci, R. Giammanco, M. Manna and E. Simons 397

Some issues regarding spectral element meshes for moving journal bearing systems: D. Rh. Gwynllyw and T. N. Phillips 423

A projection scheme for incompressible multiphase flow using adaptive Eulerian grid: 3D validation: T. Chen, P. D. Minev and K. Nandakumar 455

Issue No. 5, 20 June

Shear-thinning flow in weakly modulated channels: E. Abu-Ramadan and R. E. Khayat .. 467

Comparison of the GMRES and ORTHOMIN for the black oil model in porous media: W. Li, Z. Chen, R. E. Ewing, G. Huan and B. Li 501

Diffusion via splitting and remeshing via merging in vortex methods: M.-J. Huang ... 521

A model study for the steady state error of numerical approximations of inviscid flow equations on Cartesian grid: Z.-N. Wu 541

The advantages of using high-order finite differences schemes in laminar–turbulent transition studies: L. F. Souza, M. T. Mendonça and M. A. F. Medeiros 565

Issue No. 6, 30 June

Analysis of parameter sensitivity and experimental design for a class of nonlinear partial differential equations: M. L. Anderson, W. Bangerth and G. F. Carey 583

Finite volume solution of the Navier–Stokes equations in velocity–vorticity formulation: B. Zhu 607

Fringe element reconstruction for front tracking for three-dimensional incompressible flow analysis: D.-S. Choi, S.-S. Lee and Y.-T. Im 631

Mathematical modelling of two-phase non-Newtonian flow in a helical pipe: L. Cheng, A. V. Kuznetsov and K. P. Sandeep 649

A parallel unstructured dynamic mesh adaptation algorithm for 3-D unsteady flows: Y. M. Park and O. J. Kwon 671

Issue No. 7, 10 July

Large eddy simulation of turbulent flows in complex and moving rigid geometries using the immersed boundary method: M. Tyagi and S. Acharya 691

Use of slopelimiter techniques in traditional numerical methods for multi-phase flow in pipelines and wells: R. J. Lorentzen and K. K. Fjelde 723

Numerical solutions of 2-D steady incompressible driven cavity flow at high Reynolds numbers: E. Erturk, T. C. Corke and C. Gökçöl 747

Time accurate local time stepping for the unsteady shallow water equations: A. J. Crossley and N. G. Wright 775

Issue No. 8, 20 July

CFD computations of NAL experimental airplane with rocket booster using overset unstructured grids: F. Togashi, T. Fujita, Y. Ito, K. Nakahashi and Y. Makino 801

Shape optimization of a body located in low Reynolds number flow: H. Yagi and M. Kawahara 819

Optimized group velocity control scheme and DNS of decaying compressible turbulence of relative high turbulent Mach number: X. Li, D. Fu and Y. Ma 835

Numerical simulations of miscible fluids on a rotating Hele–Shaw cell with effects of Coriolis forces: C.-Y. Chen and Y.-C. Liu 853

Time-accurate intermediate boundary conditions for large eddy simulations based on projection methods: F. M. Denaro 869

Issue No. 9, 30 July

A second look at the role of the fast Fourier transform as an elliptic solver: E. J. Avital 909

Validation of adaptive unstructured hexahedral mesh computations of flow around a wind turbine airfoil: H. Bijl, A. H. van Zuijlen and A. van Mameren 929

Numerical solution of the Boltzmann equation by time relaxed Monte Carlo (TRMC) methods: L. Pareschi and S. Trazzi 947

Vortex shedding from a square cylinder in presence of a moving wall: S. Bhattacharyya and D. K. Maiti 985

Solution of the planar Newtonian stick–slip problem with the singular function boundary integral method: M. Elliotis, G. Georgiou and C. Xenophontos 1001

A simple algebraic interface capturing scheme using hyperbolic tangent function: F. Xiao, Y. Honma and T. Kono 1023

Issue No. 10, 10 August

Flow simulation in the nip of a rigid forward roll coater: J. P. Mmbaga, R. E. Hayes, F. H. Bertrand and P. A. Tanguy 1041

Large eddy simulation of turbulent incompressible flows by a three-level finite element method: V. Gravemeier, W. A. Wall and E. Ramm 1067

An algorithm for rotating axisymmetric flows: model, validation and industrial applications: G. M. Mazzaferro, S. P. Ferro and M. B. Goldschmit 1101

A study of time integration schemes for the numerical modelling of free surface flows: A. Malidi, S. Dufour and D. N'dri 1123

An upstream flux-splitting finite-volume scheme for 2D shallow water equations: J.-S. Lai, G.-F. Lin and W.-D. Guo 1149

Issue No. 11, 20 August

Comparative study of the continuous phase flow in a cyclone separator using different turbulence models: H. Shalaby, K. Pachler, K. Wozniak and G. Wozniak ... 1175

Modelling of wetting and drying of shallow water using artificial porosity: B. van't Hof and E. A. H. Vollebregt 1199

A nonlinear atomization model for computation of drop size distributions and spray simulations: H. Park, S. S. Yoon and S. D. Heister 1219

Contrasting a novel temporally orientated Hamilton–Jacobi-equation-based ILES method with other approaches for a complex geometry flow: P. G. Tucker and Y. Liu 1241

Finite-difference 4th-order compact scheme for the direct numerical simulation of instabilities of shear layers: Y. Jiang and J. M. Floryan 1259

A reference solution for phase change with convection: N. Hannoun, V. Alexiades and T. Z. Mai 1283

Issue No. 12, 30 August

Computing non-Newtonian fluid flow with radial basis function networks: N. Mai-Duy and R. I. Tanner 1309

Non-equilibrium behaviour of equilibrium reservoirs in molecular simulations: M. W. Tysanner and A. L. Garcia 1337

Numerical analysis on the propulsive performance and vortex shedding of fish-like travelling wavy plate: G.-J. Dong and X.-Y. Lu 1351

Regularized finite element discretizations of a grade-two fluid model: M. Amara, C. Bernardi, V. Girault and F. Hecht 1375

An arbitrary Lagrangian Eulerian (ALE) formulation for free surface flows using the characteristic-based split (CBS) scheme: P. Nithiarasu 1415

AUTHOR INDEX 1429

KEY WORD INDEX 1431

Table of Contents, Volume 48 v